Case Docket No. PHD 97,138

THE COMMISSIONER OF PATENTS AND TRADEMARKS, Washington, D.C. 20231

Enclosed for filing is the patent application of Inventor(s):
WINFRIED DECKELMANN and SIEGHARD HASENZAHL

For: ARRANGEMENT FOR MIXING AND/OR PROCESSING VIDEO SIGNALS

ENCLOSED ARE:

[X] Appointment of Associates;
[ ] Information Disclosure Statement, Form PTO-1449 and copies of documents listed therein;
[X] Preliminary Amendment;
[X] Specification (6 Pages of Specification, Claims, & Abstract);
[X] Declaration and Power of Attorney:
(1 Page of a [ ]fully executed [X]unsigned Declaration);
[X] Drawing (1 sheet of [ ]informal [X]formal sheets);
[X] Certified copy of GERMA application Serial No. 19748139.6;
[X] Authorization Pursuant to 37 CFR §1.136(a)(3)
[ ] Other: ;
[ ] Assignment to .

FEE COMPUTATION

CLAIMS AS FILED				
FOR	NUMBER FILED	NUMBER EXTRA	RATE	BASIC FEE - $790.00
Total Claims	8 - 20 =	0	X $22 =	0.00
Independent Claims	2 - 3 =	0	X $82 =	0.00
Multiple Dependent Claims, if any			$270 =	0.00
TOTAL FILING FEE			=	$790.00

Please charge Deposit Account No. 14-1270 in the amount of $790.00, the total filing fee indicated above, plus any deficiencies. The Commissioner is also hereby authorized to charge any other fees which may be required, except the issue fee, or credit any overpayment to Account No. 14-1270.

[ ]Amend the specification by inserting before the first line as a centered heading --Cross Reference to Related Applications--; and insert below that as a new paragraph --This is a continuation-in-part of application Serial No. , filed , which is herein incorporated by reference--.

CERTIFICATE OF EXPRESS MAILING

Express Mail Mailing Label No. EL215004145
Date of Deposit October 28, 1998
I hereby certify that this paper and/or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 C.F.R. 1.10 on the date indicated above and is addressed to the Commissioner of Patents and Trademarks, Washington, D.C. 20231.

Marianne Fox
Typed Name

Signature

Edward W. Goodman, Reg. 28,613
Attorney
(914) 333-9611
U.S. Philips Corporation
580 White Plains Road
Tarrytown, New York 10591

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of | Atty. Docket
WINFRIED DECKELMANN ET AL. | PHD 97-138
SERIAL NO.: | GROUP ART UNIT:
FILED: CONCURRENTLY | EXAMINER:

ARRANGEMENT FOR MIXING AND/OR PROCESSING VIDEO SIGNALS

Honorable Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

PRELIMINARY AMENDMENT

Prior to calculating the filing fee and examination, please amend the above-identified application as follows:

IN THE SPECIFICATION

Page 1, before line 1, delete "Description" and insert as a centered heading

--BACKGROUND OF THE INVENTION--;

after the heading, insert at the left margin

--Field Of The Invention--;

between lines 2 and 3, insert at the left margin

--Description Of The Related Art--;

between lines 5 and 6, insert as a centered heading

--SUMMARY OF THE INVENTION--;

line 11, after "arrangement" insert --further--;

lines 20 and 23, after "namely" insert --,-- (comma);

line 25, after "i.e." insert --,-- (comma);

Page 2, line 10, change "As defined in claim 2, the" to --The--;

line 14, delete ", as defined in claim 3,";

line 18, change "effects, as defined in claim 4." to --effects.--;

line 21, delete "In accordance with further advantageous embodiments as";

line 22, change "defined in claims 5 and 6," to --A--;

line 26, change "processors, as defined in claim 7." to --processors.--;

line 28, delete ", defined in claim 8,--;

line 32, change "use but" to --use, but--;

line 33, after "i.e." insert --,-- (comma);

line 34, change "fulfil" to --fulfill--;

Page 3, between lines 5 and 8, insert as a centered heading --BRIEF DESCRIPTION OF THE DRAWING--;

line 8, change "drawings:" to --drawing:--;

between lines 10 and 11, insert as a centered heading --DESCRIPTION OF THE PREFERRED EMBODIMENTS--;

line 14, after "namely" insert --,-- (comma);

line 20, change "fulfil" to --fulfill--;]

line 21, after "example" insert --,-- (comma);

after "i.e." insert --,-- (comma);

line 23, after "and" insert --,-- (comma);

Page 4, line 5, change "Figure is" to --Figure are--;

line 6, after "example" insert --,-- (comma).

IN THE ABSTRACT

Page 7, before line 1, delete in its entirety, and insert as a centered heading

--ABSTRACT OF THE DISCLOSURE--;

line 2, change "comprises" to --includes--;

line 4, change "comprises" to --also includes--;

after line 11, delete in its entirety.

IN THE CLAIMS

Please amend the claims as follows:

1. (Amended) An arrangement [(1)] for mixing and/or processing one or more video signals, characterized in that the arrangement [(1)] comprises:

video hardware components [(2) which are] implemented for a dedicated purpose and[, within the arrangement (1), are] exclusively usable for said dedicated purpose;[, in that the arrangement (1) comprises]

video computers [(3, 4) which can alternatively perform] for alternatively performing a plurality of functions, said video computer being [and are thus] usable within the arrangement [(1)] for different purposes, dependent on their need; and

a control circuit for assigning tasks to the video computers, depending on their need, wherein the video hardware components [(2) being] are implemented for uses which are computer-intensive and/or require a large bandwidth, and the video computers [(3, 4) being] are provided for uses which can be processed in real time by the video computers [(3, 4), the arrangement (1) accommodating a control circuit (6) which assigns tasks to the video computers (3, 4), dependent on their need].

2. (Amended) An arrangement as claimed in claim 1, characterized in that the video hardware components [(2)] are implemented as video mixer stages or video crossbars.

3. (Amended) An arrangement as claimed in claim 1, characterized in that the relevant desired function of the video

computers [(3, 4) can be] are activated by software which is loadable in dependence upon the need.

4. (Amended) An arrangement as claimed in claim 1, characterized in that the video computers [(3, 4)] are loadable with software provided for chromakey or lumakey or trick effects.

5. (Amended) An arrangement as claimed in claim 1, characterized in that the video hardware components [(2)] and the video computers [(3, 4)] are coupled by means of a wideband bus system [(5)].

6. (Amended) An arrangement as claimed in claim 1, characterized in that the video hardware components [(2)] and the video computers [(3, 4)] are coupled by means of a video crossbar.

7. (Amended) An arrangement as claimed in claim 1, characterized in that the video computers [(3, 4)] comprise standard processors.

8. (Amended) An arrangement comprising at least two arrangements [(1)] for mixing and/or processing one or more video signals as claimed in claim 1, characterized in that video data are exchangeable between the mixing and/or processing arrangements [(1)] and in that at least one of the mixing and/or processing arrangements [(1)] comprises a video computer [(4)] which,

dependent on the need, is assignable to one of the two mixing and/or processing arrangements [(1)].

REMARKS

The specification has been amended in various places to correct typographical and grammatical errors. The specification has also been amended to add section headings.

The claims have been amended to more clearly define the invention as disclosed in the written description. In particular, the claims have been amended for clarity.

When the Examiner takes this case up for examination, it is respectfully requested that this Preliminary Amendment be taken into consideration.

Respectfully submitted,

by

Edward W. Goodman, Reg. 28,613
Attorney
Tel.: 914-333-9611

Arrangement for mixing and/or processing video signals.

Description

The invention relates to an arrangement for mixing and/or processing one or more video signals.

Dedicated hardware components are provided in such prior-art arrangements for the various uses of such arrangements. This renders the use of such arrangements inflexible.

It is an object of the invention to further improve an arrangement of the type described in the opening paragraph, allowing a more flexible and more versatile use.

According to the invention, this object is solved in that the arrangement comprises video hardware components which are implemented for a dedicated purpose and, within the arrangement, are exclusively usable for this dedicated purpose, in that the arrangement comprises video computers which can alternatively perform a plurality of functions and are thus usable within the arrangement for different purposes, dependent on their need, the video hardware components being implemented for uses which are computer-intensive and/or require a large bandwidth, the video computers being provided for uses which can be processed in real time by the video computers, the arrangement accommodating a control circuit which assigns tasks to the video computers, dependent on their need.

The arrangement comprises elements of two different categories. The first category includes video hardware components which are implemented for a fixed purpose and can exclusively be used for this purpose. These video hardware components are provided for uses which can hardly be fulfilled by other components, namely particularly those uses which are computer-intensive or require a large bandwidth. For such purposes, dedicated video hardware components can be advantageously used as before.

The arrangement further comprises elements of a second category, namely video computers which can alternatively perform a plurality of functions. The video computers are provided for those purposes which can be processed by them in real time, i.e. it must be possible to process a video signal in real time and in the desired manner. The video computers may be usable within the arrangement, dependent on their need, for different purposes. Thus, not every use requires its own element, but rather one or more video computers may be alternatively used for different purposes.

The arrangement further comprises a control circuit which assigns a corresponding function to the video computers, dependent on the need. This function may be changed any time so that a switch or modification of the function of the arrangement is possible within a short time.

This implementation of the arrangement makes it flexible, i.e. dependent on the purpose for which it is to be used, it can process video signals in different ways. This is particularly achieved by the flexible use of the video computers.

The variable use of the video computers, particularly when their functions are software-controlled, allows additional and/or new functions to be realized any time, because only the software is to be changed for this purpose. As defined in claim 2, the video hardware components may be advantageously implemented as video mixer stages or video crossbars.

The flexibility of the possible use of the video computers for different purposes can be advantageously achieved in that, as defined in claim 3, the desired function of the video computers can be activated by software which is loadable in dependence upon the need.

This software may render the video computers suitable, for example, for such uses as chromakey, lumakey or trick effects, as defined in claim 4.

Within the arrangement, the video hardware components and the video computers are advantageously coupled by means of a connection which can handle a sufficiently large quantity of data. In accordance with further advantageous embodiment as defined in claims 5 and 6, a wideband bus system or a video crossbar can be used advantageously.

Particularly when the variable functions of the video computers are activated by means of software, the software computers may advantageously comprise standard processors, as defined in claim 7. Even a standard computer built on a board may be used, which renders the arrangement particularly economic.

A further embodiment of the invention, defined in claim 8, utilizes the possible flexible use of the video computers for a combined use of a plurality of arrangements for mixing or processing one or more video signals. For such a combined use, at least one video computer of at least one of the arrangements may be variably used not only as regards its own purpose of use but also as regards its purpose of use in one of the two arrangements, i.e. the video computer can be assigned to the one or the other arrangement, as the case may be, and fulfil a function, dependent on the need, in this

arrangement. This is also possible for more video computers so that, basically, the video computers can be used variably in one or more arrangements of a plurality of coupled arrangements. This further enhances the flexibility of use of the arrangements.

These and other aspects of the invention are apparent from and will be elucidated with reference to the embodiments described hereinafter.

In the drawings:

the sole Figure is a block diagram of an arrangement 1 for mixing and/or processing one or more video signals.

The arrangement 1 accommodates video hardware components 2. The video hardware components are implemented for a fixed use and can exclusively perform the assigned use within the arrangement 1. Particularly, those functions are concerned which can be performed with difficulty by means of computers, namely computer-intensive or bandwidth-intensive tasks. This may also concern, for example, the mixing of a plurality of video signals. The video hardware components 2 can thus realize particularly video mixer stages or video crossbars.

The arrangement 1 further accommodates video computers 3 and 4. In contrast to the hardware components 2, the video computers 3 and 4 can be used in variable ways. They can fulfil different purposes of use. The video computers 3 and 4 may be controlled, for example by software which can be loaded, dependent on their need, i.e. they may perform different functions, dependent on the loaded software. On the one hand, their function is thereby individually changeable, dependent on the need, and on the other hand, modifications of the functions can be realized by means of modified software, or new functions can be realized by means of new software.

The arrangement 1 comprises a wideband bus 5 by means of which the video hardware components 2 and the video computers 3 and 4 are coupled. The video data can be transmitted in an unprocessed or a processed form via this wideband bus 5.

The arrangement 1 also comprises a control circuit 6 which is provided to assign the relevant desired function, dependent on the need, to the video computers 3 and 4. For example, the control circuit 6 may trigger the loading of the software in the video computers 3 and 4 required in dependence upon the desired function.

Due to the variable functions of the video computers 3 and 4, such an arrangement 1 can be flexibly used and also adapted any time to new desired functions by

means of modified software.

These advantages of the arrangement 1 shown in the Figure can even be enhanced in a combined use of two or more arrangements 1.

In this case, a plurality of arrangements corresponding to arrangement 1 in the Figure is coupled via the wideband bus 5 in a way which is not shown in the Figure. In this case, at least one of the video computers, for example the video computer 4 of the arrangement 1 shown in the Figure, can be advantageously used in a variable manner either in the one arrangement or in the other arrangement. Fewer video computers are thereby required within an arrangement because, dependent on their need, they may be assigned to either the one arrangement 1 or the other arrangement for processing video signals. Regarding the arrangement 1 shown in the Figure, this means that, for example, the video computers 4 may also be used in another arrangement which is not shown in the Figure. Conversely, video computers arranged in an arrangement not shown in the Figure and coupled to the arrangement 1 of Fig. 1 by means of the wideband bus 5 may also be used in the arrangement 1 shown in the Figure.

The video computers 3 and 4 may be advantageously used particularly for those tasks which can be processed in real time by means of computers. These may be, for example, chromakey, lumakey or trick effects.

CLAIMS:

1. An arrangement (1) for mixing and/or processing one or more video signals, characterized in that the arrangement (1) comprises video hardware components (2) which are implemented for a dedicated purpose and, within the arrangement (1), are exclusively usable for said dedicated purpose, in that the arrangement (1) comprises video computers (3, 4) which can alternatively perform a plurality of functions and are thus usable within the arrangement (1) for different purposes, dependent on their need, the video hardware components (2) being implemented for uses which are computer-intensive and/or require a large bandwidth, the video computers (3, 4) being provided for uses which can be processed in real time by the video computers (3, 4), the arrangement (1) accommodating a control circuit (6) which assigns tasks to the video computers (3, 4), dependent on their need.

2. An arrangement as claimed in claim 1, characterized in that the video hardware components (2) are implemented as video mixer stages or video crossbars.

3. An arrangement as claimed in claim 1, characterized in that the relevant desired function of the video computers (3, 4) can be activated by software which is loadable in dependence upon the need.

4. An arrangement as claimed in claim 1, characterized in that the video computers (3, 4) are loadable with software provided for chromakey or lumakey or trick effects.

5. An arrangement as claimed in claim 1, characterized in that the video hardware components (2) and the video computers (3, 4) are coupled by means of a wideband bus system (5).

6. An arrangement as claimed in claim 1, characterized in that the video hardware components (2) and the video computers (3, 4) are coupled by means of a video

crossbar.

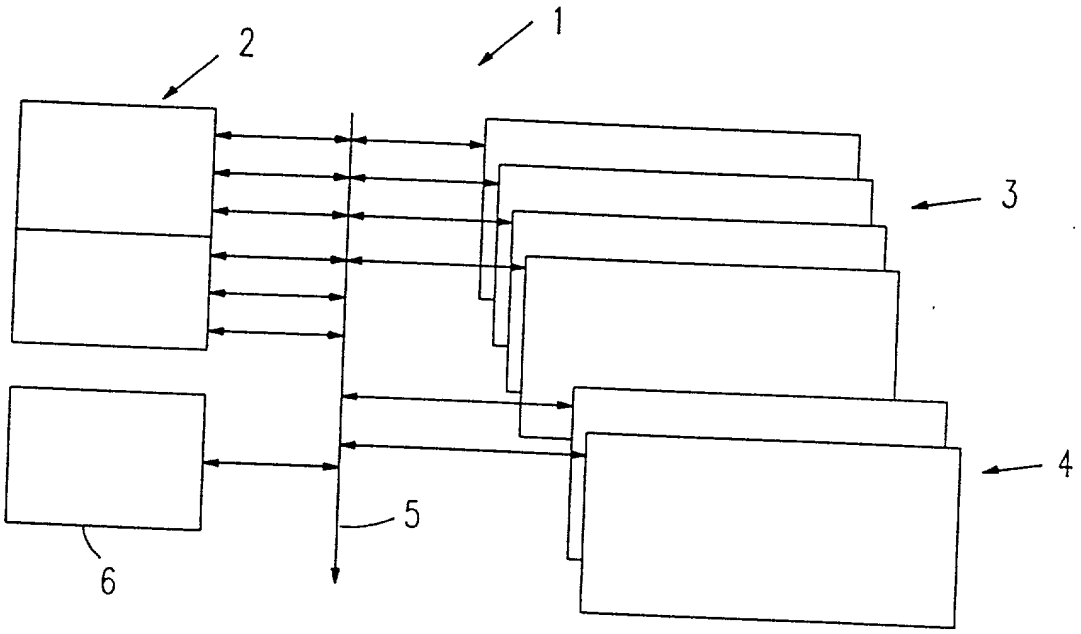
7. An arrangement as claimed in claim 1, characterized in that the video computers (3, 4) comprise standard processors.

8. An arrangement comprising at least two arrangements (1) for mixing and/or processing one or more video signals as claimed in claim 1, characterized in that video data are exchangeable between the mixing and/or processing arrangements (1) and in that at least one of the mixing and/or processing arrangements (1) comprises a video computer (4) which, dependent on the need, is assignable to one of the two mixing and/or processing arrangements (1).

ABSTRACT:

For a possibly flexible use of an arrangement (1) for mixing and/or processing one or more video signals, the arrangement (1) comprises video hardware components (2) which are implemented for a dedicated purpose and, within the arrangement (1), are exclusively usable for said dedicated purpose, in that the arrangement (1) comprises video computers (3, 4) which can alternatively perform a plurality of functions and are thus usable within the arrangement (1) for different purposes, dependent on their need, the video hardware components (2) being implemented for uses which are computer-intensive and/or require a large bandwidth, the video computers (3, 4) being provided for uses which can be processed in real time by the video computers (3, 4), the arrangement (1) accommodating a control circuit (6) which assigns tasks to the video computers (3, 4), dependent on their need.

Figure.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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of
WINIFRIED DECKELMANN et al.

Atty. Docket
PHD 97,138

Serial No.

Group Art Unit

Filed: CONCURRENTLY

Examiner:

Title: ARRANGEMENT FOR MIXING AND/OR PROCESSING VIDEO SIGNALS

Honorable Commissioner of Patents and Trademarks
Washington, D.C. 20231

APPOINTMENT OF ASSOCIATES

Sir:

The undersigned Attorney of Record hereby revokes all prior appointments (if any) of Associate Attorney(s) or Agent(s) in the above-captioned case and appoints:

EDWARD W. GOODMAN **(Registration No. 28,613)**
c/o U.S. PHILIPS CORPORATION, Intellectual Property Department, 580 White Plains Road, Tarrytown, New York 10591, his Associate Attorney(s)/Agent(s) with all the usual powers to prosecute the above-identified application and any division or continuation thereof, to make alterations and amendments therein, and to transact all business in the Patent and Trademark Office connected therewith.

ALL CORRESPONDENCE CONCERNING THIS APPLICATION AND THE LETTERS PATENT WHEN GRANTED SHOULD BE ADDRESSED TO THE UNDERSIGNED ATTORNEY OF RECORD.

Respectfully,

Algy Tamoshunas, Reg. 27,677
Attorney of Record

Dated at Tarrytown, New York
this October 2, 1998.

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DECLARATION and POWER OF ATTORNEY

ATTORNEY'S DOCKET NO.:
PHD 97.138

As a below named inventor, I hereby declare that:
My residence, post office address and citizenship are as stated below next to my name.
I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled
"Arrangement for mixing and/or processing video signals"
the specification of which (check one)
☐ is attached hereto.
☐ was filed on _____ as Application Serial No. _____ and was amended on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by the amendment(s) referred to above.
I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a).
I hereby claim foreign priority benefits under Title 35, United States Code, § 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

PRIOR FOREIGN APPLICATION(S)

COUNTRY	APP.NUMBER	DATE OF FILING (DATE,MONTH, YEAR)	PRIORITY CLAIMED UNDER 35 U.S.C. 119
Germany	19748139.6	31 October 1997	YES

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35 United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1,56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

PRIOR UNITED STATES APPLICATION(S)

APPLICATION SERIAL NUMBER	FILING DATE	STATUS (PATENTED, PENDING, ABANDONED)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. (list name and registration number)

Algy Tamoshunas, Reg. No. 27,677
Jack E. Haken, Reg. No. 26,902

SEND CORRESPONDENCE TO: Corporate Patent Counsel; U.S. Philips Corporation; 580 White Plains Road; Tarrytown, NY 10591	DIRECT TELEPHONE CALLS TO: (name and telephone No.) (914) 332-0222

Dated:		Inventor's Signature:		
Full Name of Inventor	Last Name **DECKELMANN**	First Name **Winfried**	Middle Name	
Residence & Citizenship	City **Weiterstadt**	State or Foreign Country **Germany**	Country of Citizenship **Germany**	
Post Office Address	Street **Roppmühlstraße 31**	City **64331 Weiterstadt**	State or Country **Germany**	Zip Code
Dated:		Inventor's Signature:		
Full Name of Inventor	Last Name **HASENZAHL**	First Name **Sieghard**	Middle Name	
Residence & Citizenship	City **Riedstadt**	State or Foreign Country **Germany**	Country of Citizenship **Germany**	
Post Office Address	Street **Walther-Rathenau-Straße 103e**	City **64560 Riedstadt**	State or Country **Germany**	Zip Code